ELECTRONICS

6FY7

COMPACTRON DISSIMILAR DOUBLE TRIODE

FOR TV VERTICAL-DEFLECTION OSCILLATOR AND AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6FY7 is a compactron containing two dissimilar triode sections, designed for use as a combined vertical-deflection oscillator and amplifier in television receivers. Section 1 is intended for service as an oscillator and Section 2 as an amplifier.

GENERAL

ELECTRICAL

Cathode - Coated Unipotential

Heater Characteristics and Ratings

Heater Voltage, AC or DC*	6.3±0.6	Volts
Heater Current‡	1.05	Amperes

Direct Interelectrode Capacitances, approximate§

	Section 1	Section 2	
Grid to Plate: (g to p)	4.4	9.5	pf
Input: g to (h + k)	2.2	6.5	pf
Output: p to (h + k)	0.4	1.2	pf

MECHANICAL

Operating Position - Any
Envelope - T-9, Glass
Base - E12-70, Button 12-Pin
Outline Drawing - EIA 9-60

Maximum Diameter	1.188	Inches
Maximum Over-all Length	2.875	Inches
Maximum Seated Height	2.500	Inches

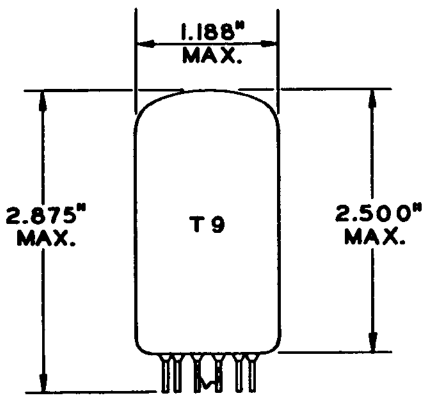
MAXIMUM RATINGS

Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey electron tube of a specified type as defined by its published data and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, making allowance for the effects of changes in operating conditions due to variations in the characteristics of the tube under consideration.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply-voltage variation, equipment component variation, equipment control adjustment, load variation, signal variation, environmental conditions, and variations in the characteristics of all other electron devices in the equipment.

PHYSICAL DIMENSIONS

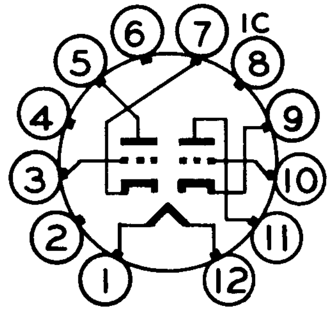


EIA 9-60

TERMINAL CONNECTIONS

Pin 1 - Heater
Pin 2 - No Connection
Pin 3 - Grid (Section 2)
Pin 4 - No Connection
Pin 5 - Plate (Section 2)
Pin 6 - No Connection
Pin 7 - Cathode (Section 2)
Pin 8 - Internal Connection - Do Not Use
Pin 9 - Cathode (Section 1)
Pin 10 - Grid (Section 1)
Pin 11 - Plate (Section 1)
Pin 12 - Heater

BASING DIAGRAM



EIA 12EO

MAXIMUM RATINGS (Cont'd)

DESIGN-MAXIMUM VALUES

	Vertical Oscillator Service¶ (Section 1)	Vertical Deflection Amplifier¶ (Section 2)	
DC Plate Voltage	330	275	Volts
Peak Positive Pulse Plate Voltage	---	2000	Volts
Peak Negative Grid Voltage	400	250	Volts
Plate Dissipation	1.0	7.0#	Watts
DC Cathode Current	20	50	Milliamperes
Peak Cathode Current	70	175	Milliamperes
Heater-Cathode Voltage			
Heater Positive with Respect to Cathode			
DC Component	100	100	Volts
Total DC and Peak	200	200	Volts
Heater Negative with Respect to Cathode			
Total DC and Peak	200	200	Volts
Grid Circuit Resistance	2.2	2.2	Megohms

CHARACTERISTICS AND TYPICAL OPERATION

AVERAGE CHARACTERISTICS

	Section 1 (Oscillator)	Section 2 (Amplifier)		
Plate Voltage	250	60	150	Volts
Grid Voltage	-3.0	0¢	-17.5	Volts
Amplification Factor	65	---	6.0	
Plate Resistance, approximate	40500	---	920	Ohms
Transconductance	1600	---	6500	Micromhos
Plate Current	1.4	95	35	Milliamperes
Plate Current, approximate Ec = -25 Volts	---	---	6	Milliamperes
Grid Voltage, approximate Ib = 30 Microamperes	-5.5	---	---	Volts
Grid Voltage, approximate Ib = 50 Microamperes	---	---	-36	Volts

NOTES

* The equipment designer should design the equipment so that heater voltage is centered at the specified bogey value, with heater supply variations restricted to maintain heater voltage within the specified tolerance.

‡ Heater current of a bogey tube at Ef = 6.3 volts.

§ Without external shield.

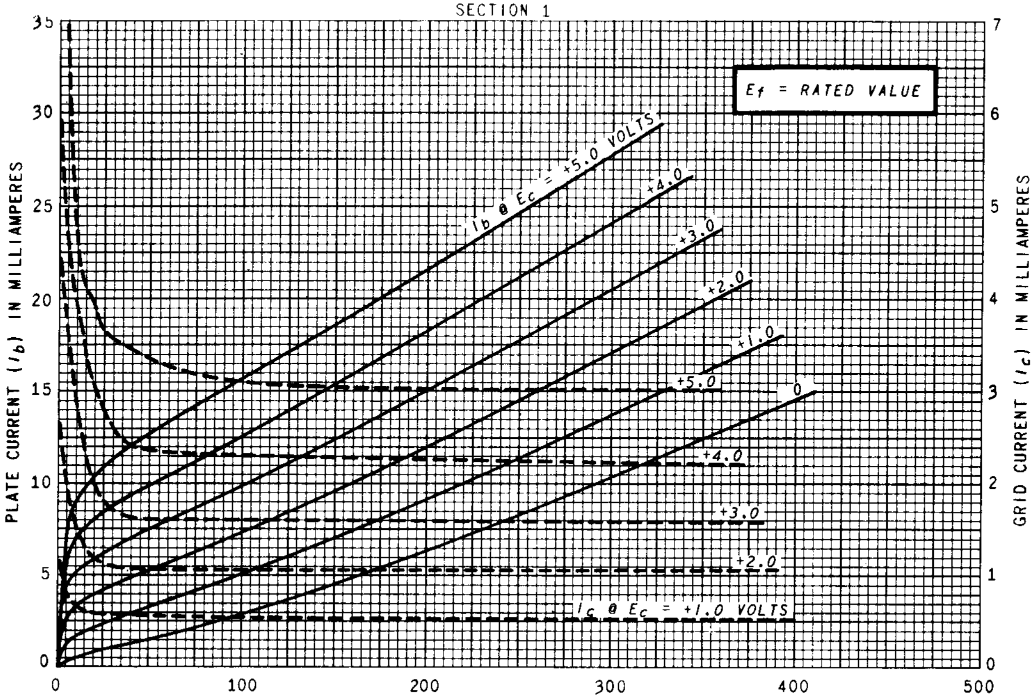
¶ For operation in a 525-line, 30-frame television system as described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations", Federal Communications Commission. The duty cycle of the voltage pulse must not exceed 15 percent of one scanning cycle.

\# In stages operating with grid-leak bias, an adequate cathode-bias resistor or other suitable means is required to protect the tube in the absence of excitation.

¢ Applied for short interval (two seconds maximum) so as not to damage tube.

AVERAGE PLATE CHARACTERISTICS

SECTION 1

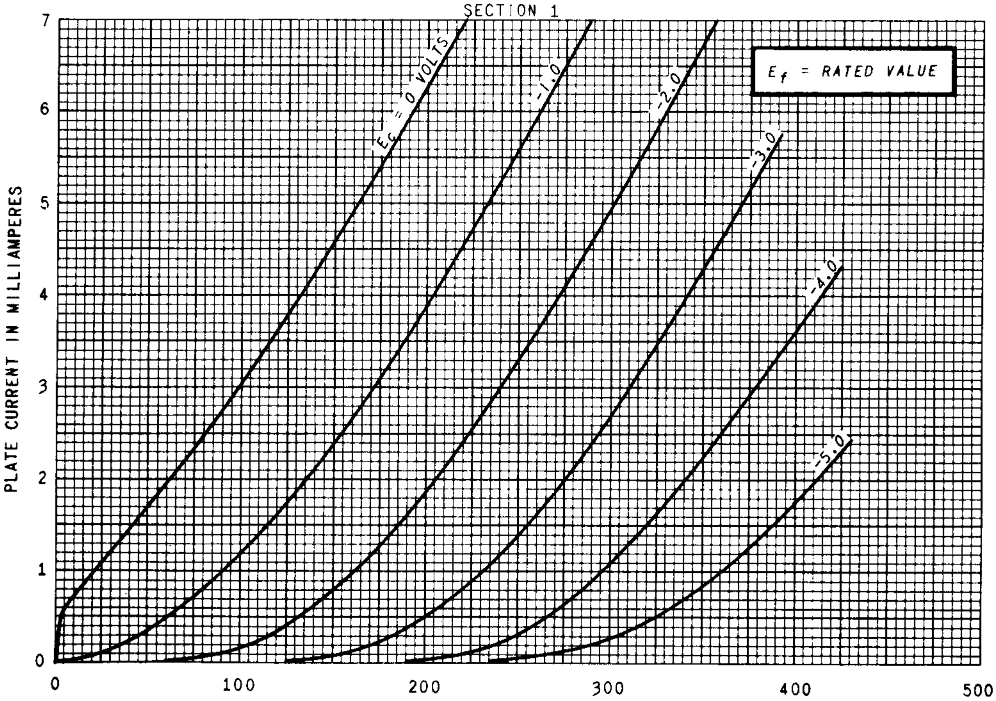


K-55611-TD255-1

DECEMBER 16, 1963

AVERAGE PLATE CHARACTERISTICS

SECTION 1

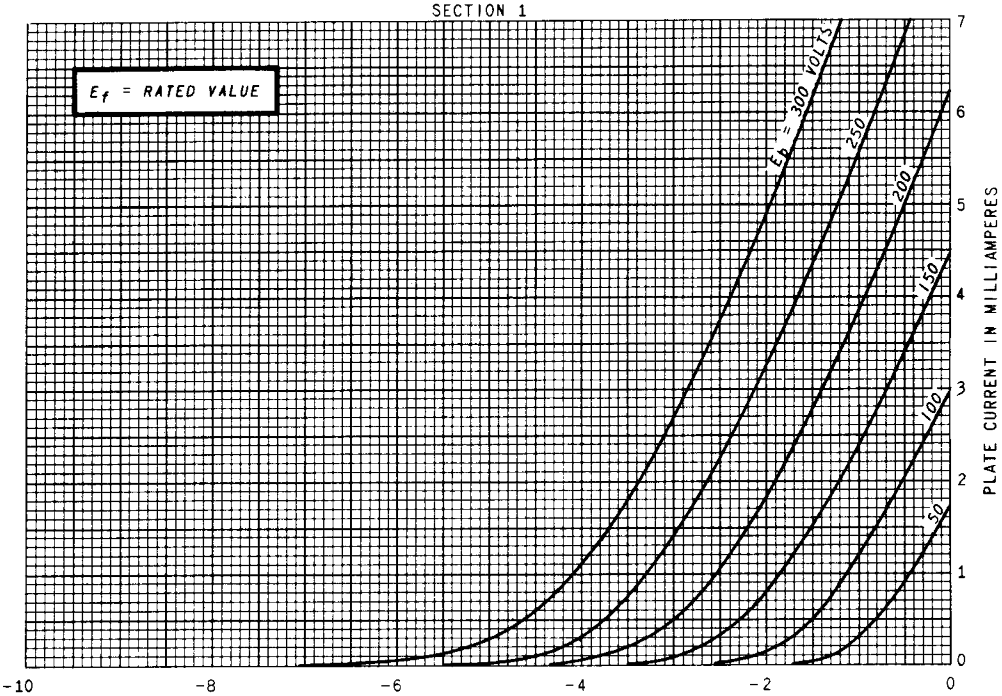


K-55611-TD255-2

DECEMBER 16, 1963

AVERAGE TRANSFER CHARACTERISTICS

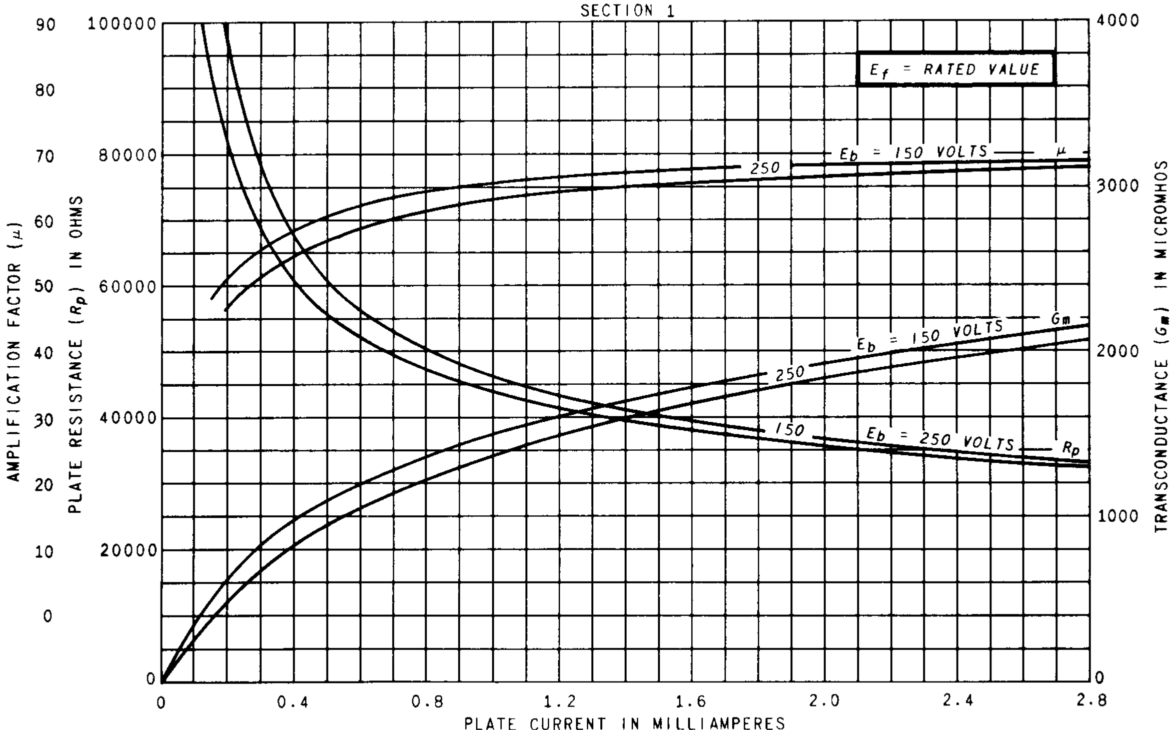
SECTION 1



K-55611-TD255-3 DECEMBER 16, 1963

AVERAGE CHARACTERISTICS

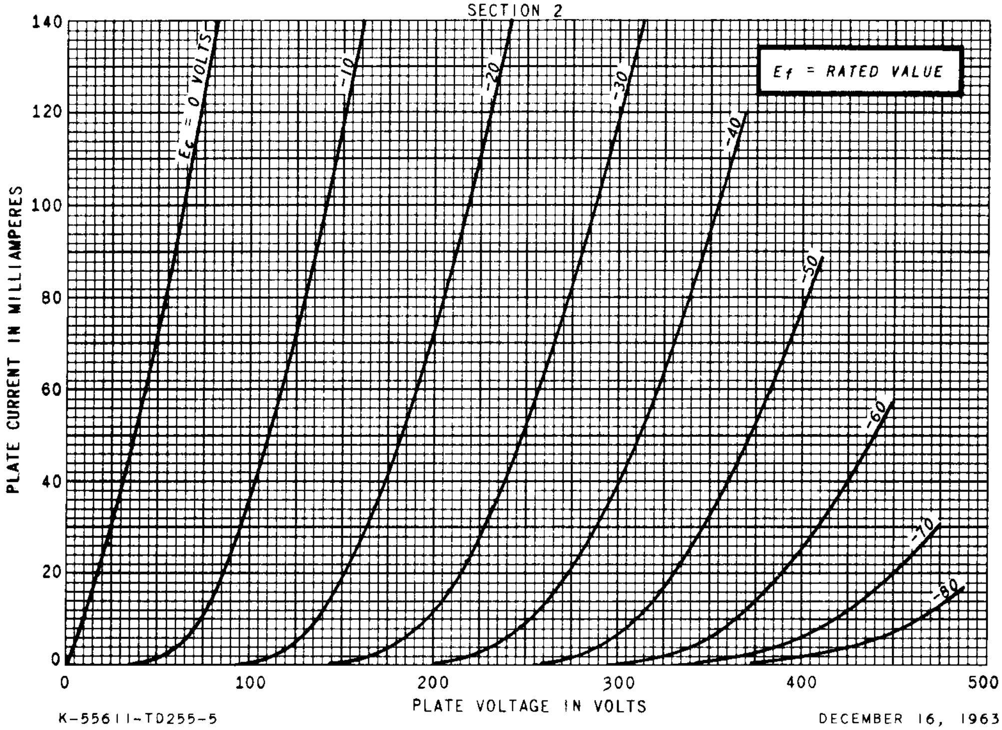
SECTION 1



K-55611-TD255-4 DECEMBER 16, 1963

AVERAGE PLATE CHARACTERISTICS

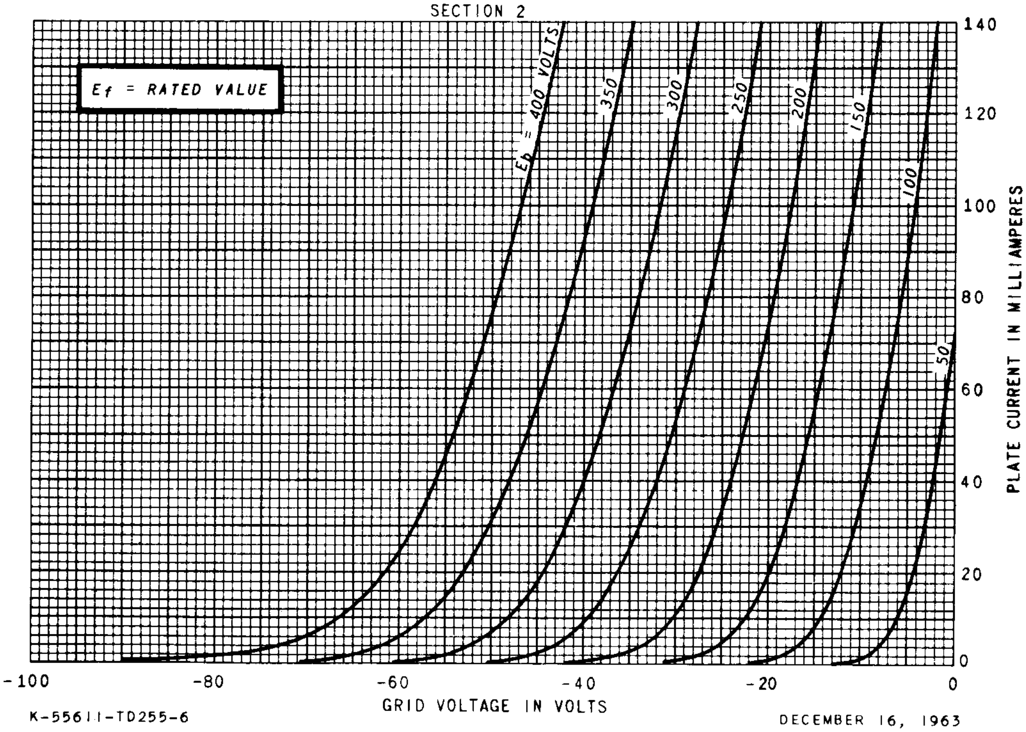
SECTION 2



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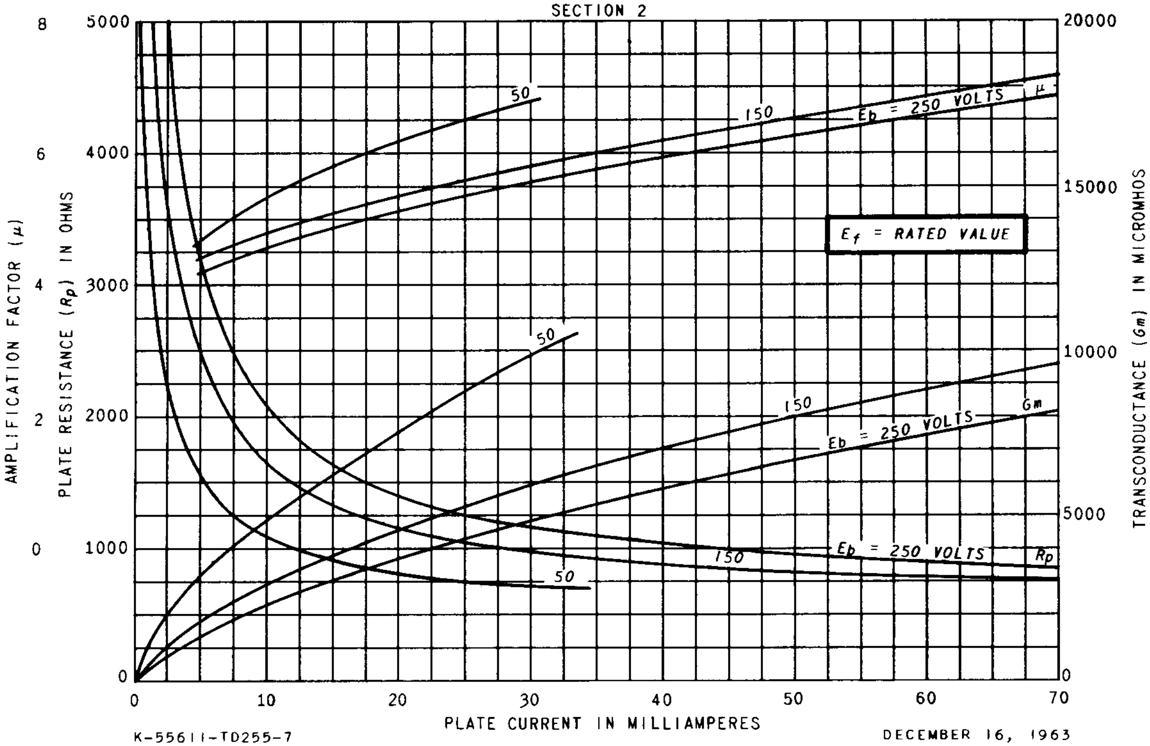
AVERAGE TRANSFER CHARACTERISTICS

SECTION 2



K-55611-TD255-6 DECEMBER 16, 1963

AVERAGE CHARACTERISTICS



TUBE DEPARTMENT

GENERAL ELECTRIC

Owensboro, Kentucky